



**CH2MHILL**

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June 3, 2002

Mr. Dan Gifford  
Streambed Alteration Agreement  
California Department of Fish and Game  
Sacramento Valley and Central Sierra (Region 2)  
1701 Nimbus Road  
Rancho Cordova, CA 95670

Subject: Streambed Alteration Agreement for HDD Crossing Cosumnes River, Badger and Laguna Creeks for CPP Gas Pipeline

Dear Mr. Gifford:

The Sacramento Municipal Utility District (SMUD) is proposing to build a 26-mile gas pipeline that will serve a new power plant to be located near Rancho Seco. The gas pipeline would cross under the Cosumnes River, Badger Creek and Laguna Creek, near Twin Cities Road and Highway 99 in South Sacramento County.

Section 1603 of the Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the Department of Fish and Game before beginning the project. Similarly, section 1601 of the Fish and Game Code requires a State or local governmental agency or public utility to notify the Department before it begins a construction project that will: 1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; 2) use materials from a streambed; or 3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake.

Enclosed with this letter are Notification of Streambed Alteration forms (FG 2023) and Questionnaire (FG 2024) for the three crossings. To avoid potential adverse impacts to biological resources and water quality, SMUD proposes to cross these three potentially sensitive areas using horizontal directional drilling (HDD). HDD is a method that uses a guided drill head to tunnel under surface features. It is often used to construct utility lines under roads, highways or streams. The drill head uses a pressurized bentonite slurry as a drilling lubricant and guides the drill bit using either wires on the surface, gyroscopes (which require no surface wires) or triangulation. Guide wires on the surface are most accurate, but may require some vegetation removal, which is not generally feasible in a preserve. HDD can drill 30 feet or more below the surface depending on soil conditions and topography.

HDD can generally install a pipeline under a surface feature with no disturbance of the surface. However, if the drill head encounters soil fractures or excessive lubricant pressure, bentonite can be forced up to the surface resulting in a spill referred to as a "frac out." On land, a frac out would result in fine mud oozing across the surface. The material is fine-grained and non-toxic, although it can cover and bury plants and small animals, and removal may cause damage to these resources. If a frac out occurs under water, some of the bentonite can bury aquatic invertebrates, and some can become entrained in the water column resulting in turbidity and water quality degradation. To avoid frac outs, the contractor generally bores exploratory holes in the area where the HDD is planned to characterize the type and density of substrate. Based on these geotechnical studies recommendations for the depth and speed of drilling can be made that will minimize the potential for frac out.

To reduce the adverse impacts of a frac out, the following actions can be implemented by the drilling contractor, construction monitor and the agencies:

- Minimize the potential for a frac out by carefully monitoring drilling progress and slurry returns;
- Provide for the timely detection of frac-outs through ongoing monitoring during drilling;
- Protect areas that are considered environmentally sensitive by setting entrance and exit locations at least 150 feet from riparian vegetation (streams, wetlands, other biological resources, cultural resources);
- Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling mud occur; and,
- Ensure that all appropriate notifications are made to the CEC and environmental monitors immediately, and to appropriate regulatory agencies within 24 hours, and that documentation is completed.
- A written contingency plan will be developed during final engineering.

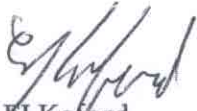
With implementation of these measures, CPP believes that the HDD will not "divert, obstruct or change the natural flow" of the streambed nor "result in the disposal or deposition of debris, waste, or other material" where it can reach the river. CPP notes that

these requirements, as well as the requirement to prepare a Contingency Plan for Inadvertent Horizontal Directional Drilling Returns, will appear as conditions in the Certification to Operate, authorized by the California Energy Commission.

With this notification, CPP requests that CDFG determine whether a Streambed Alteration Agreement pursuant to Section 1603 of Fish and Game Code is appropriate and if so initiate preparation of the required Agreement. Should you have questions or additional information, please do not hesitate to contact me at (916)286-0305. Thank you for your timely assistance on this project.

Sincerely,

CH2M HILL

A handwritten signature in black ink, appearing to read 'EJ Kotford', is written over the printed name.

EJ Kotford  
Senior Biologist

Enclosures:

3 Copies Form 2023, 2024



## **Supplemental Information to Form 2023, Notification of Streambed Alteration for CPP Gas Pipeline**

### **Project Description and Schedule**

The project is referred to as the CPP Gas pipeline project. The alignment for the pipeline is being finalized by Earthtec, a subcontractor to SMUD. It is anticipated that the final construction methods, Stormwater Pollution Prevention Plan, and HDD Contingency Plans would be developed by a drilling contractor hired by SMUD in approximately June 2003. To minimize the potential for adverse impacts to aquatic life, pipeline construction under waterways would be timed for the dry season, and to avoid the potential nesting season for raptors. Therefore, construction is planned for August through October of 2003.

### **Estimated Project Cost**

The cost of the 3 HDD segments is estimated to be cumulatively less than \$400,000.

### **Number of Encroachments**

The pipeline would cross under the Cosumnes River, Badger Creek and Laguna Creek. Therefore this project would potentially involve 3 encroachments.

The locations of the 3 waterway crossings are described in terms of latitude and longitude, township and range and miles from Highway 99 and Twin Cities Road on Form 2023. The location of the Cosumnes River and Badger Creek crossings are 5.9 miles northwest of Galt. The Laguna Creek Crossing is 6.8 mile northeast of Galt.

The equipment to be used to complete the project will be determined by the successful bidder in a contract to SMUD. However SMUD anticipates that it will involve a diesel or electric generator-powered drilling machine, backhoe, frontloader, heavy duty flatbed trucks (to load drill rod), a pump truck (to pump bentonite) and crane (for offloading equipment).

Impacts to wetland and riparian vegetation would be minimized by placing the drill entry and exit sites a minimum of 150 feet from riparian vegetation, and by implementing drilling and monitoring measures to minimize adverse impacts of a potential frac out. Scheduling construction during August to October would minimize the potential disturbance to nesting raptors or birds in the vicinity of drilling, as well as minimize the potential for drilling to cause adverse impacts to water quality. It is anticipated that the Cosumnes River and Badger Creek will be dry or nearly so during this time of year.

### **Supplemental Documents**

A more extensive description of the entire CPP project including the pipeline has been previously provided to CDFG (Application for Certification of Cosumnes Power Plant), and can be referred to for additional project description information.

The general location of the 3 proposed HDD's are provided at the end of the Supplemental Information. Cosumnes River is located on private property and permission needs to be granted for access from the owner. Badger Creek is on property owned by the Department of Fish and Game. Laguna Creek is on private property.



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### **Construction Designs**

Preliminary construction designs for Cosumnes and Badger, and alignments are attached to this document (GPO-PRO-D0001, GPO-PRO-D0002). A typical HDD setup diagram is also provided. The final design for crossing would not be expected prior to retaining a drilling contractor, estimated to be in June of 2003.

### **CEQA Documentation**

The aforementioned Application for Certification (AFC) prepared for the California Energy Commission is a functional equivalent to an EIR. The AFC was previously provided to CDFG.

### **Federal, State and Local Authorizations**

CPP is in the early stages of acquiring other permits for the project. At this time CPP expects to acquire:

**ACOE: Section 404 Authorization for Fill**

**USFWS: Section 7 Biological Opinion**

**NMFS: Determination of No Impact**

**CDFG: Streambed Alteration Agreement**

**RWQCB: Section 401 Water Quality Waiver**

**Stormwater Authorization under General Order**

**Local: Building Permits (various)**



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Figure 1. General Location of CPP Gas Pipeline HDD

## For Department Use Only

Notification Number:		Date Received:		Date Completed:	
Fees Enclosed?	Yes \$ _____ No _____				
Action Taken/Notes:					

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF FISH AND GAME

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

## Notification Type

<input checked="" type="checkbox"/> 1601 (Public)	Streambed Alteration Agreement
<input type="checkbox"/> 1603 (Private)	

## Applicant Information

	Name	Address	Telephone/FAX
<b>Applicant:</b>	Sacramento Municipal Utility District (SMUD) Attn: Colin Taylor	6201 S Street Sacramento, CA 95817-1899	<b>Business:</b> (916) 732-6724 <b>Fax:</b> (916) 732-5884
<b>Operator:</b>	Joseph Pennington SMUD	6201 S Street Sacramento, CA 95817-1899	<b>Business:</b> (916) 732-6915 <b>Fax:</b> (916) 732-5884
<b>Contractor:</b>			<b>Business:</b> <b>Fax:</b>
<b>Contact Person:</b>	EJ Koford / CH2M HILL	2485 Natomas Park Dr. Suite 600 Sacramento, CA 95833	<b>Business:</b> 916-920-0212 x305 <b>Fax:</b> 916-614-3590
<b>Property Owner:</b>	Kenefick Family Revocable Trust  Laguna Creek Vineyard Partnership	12001 Alta Mesa Rd, Galt, Ca 94632  PO Box 789, Ceres, Ca 95307	<b>Business:</b> <b>Fax:]</b>  <b>Business:</b> <b>Fax:</b>

## Project Location

<b>Location Description:</b>	Laguna Creek 0.8 mi. West of Highway 104	
<b>County</b>	<b>Assessor's Parcel Number</b>	
Sacramento	13800900320000 (Kenefick), 13800900300000 (Laguna Creek Vineyard)	

<b>USGS Map</b>	<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>Latitude/Longitude</b>
Clay	6N	7E	33 (south boundary of)	38.32N / 121.22W
<b>Name of River, Stream, or Lake:</b>		Laguna Creek		
<b>Tributary To:</b>	Cosumnes River			



**NOTIFICATION OF LAKE OR STREAMBED ALTERATION**  
(Continued)

Name of Applicant: SMUD

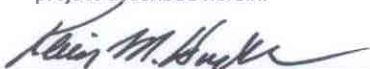
Project Description							
Project Name:		Cosumnes Power Plant Gas Line					
Proposed Start Date:	8/03	Proposed Completion Date:	10/03	Project Cost:	\$100,000	Number of Stream Enroachments: (Timber Harvest Plans Only)	1
Describe project below: (Attach separate pages if necessary)							
<p>SMUD proposes to install 26 miles of natural gas pipeline to supply the Cosumnes power plant. Approximately 1150 ft of the pipe would be installed via horizontal directional drilling (HDD) under Laguna Creek to avoid adverse effects to surface features and water quality.</p> <p>The drilling and exit pads would be located outside the streambed margins, and a minimum of 150 feet from riparian vegetation.</p> <p>A detailed description of other project features is provided in the Application for Certification (AFC) filed in September 2001 and in the attached materials.</p>							

Attachments/Enclosures		
Attach or enclose the required documents listed below and check the corresponding boxes.		
<input checked="" type="checkbox"/> Project description	<input checked="" type="checkbox"/> Map showing project location, including distances and/or directions from nearest city or town	<input type="checkbox"/> Construction plans and drawings pertaining to the project.
Attach or enclose the required documents listed below and check the corresponding boxes.		
Completed CEQA documents:	<input type="checkbox"/> Negative Declaration	<input type="checkbox"/> Environmental Impact Report
	<input type="checkbox"/> Mitigated Negative Declaration	<input checked="" type="checkbox"/> AFC
Copies of applicable Local, state, or federal permits, agreements, or other authorizations.	<input type="checkbox"/> Notice of Exemption	
	<input type="checkbox"/> Notice of Determination	
	<input type="checkbox"/> Local, Describe: <input checked="" type="checkbox"/> State, Describe: AFC for Power Plant and related facilities <input checked="" type="checkbox"/> Federal, Describe: 4PU permit for other portions of pipeline	

I hereby certify that all information contained in this notification is true and correct and that I am authorized to sign this document. I understand that in the event this information is found to be untrue or incorrect, I may be subject to civil or criminal prosecution and the Department may consider this notification to be incomplete and /or cancel any Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand that this notification is valid only for the project described herein and I may be subject to civil or criminal prosecution for undertaking a project that differs from the one described herein, unless I have notified the Department of the project in accordance with section 1601 or 1603 of the Fish and Game code

I understand that a Department representative may need to inspect the property where the project described herein will take place before issuing a Lake or Streambed Alteration Agreement pursuant to this notification. In the event the Department determines that a site inspection is necessary. I hereby authorize the Department to enter the property where the project described herein will take place to inspect the property at any reasonable time and certify that I am authorized to grant the Department permission to access the property.

☐ I request the Department to first contact me at (insert telephone number) \_\_\_\_\_ to schedule a date and time to enter the property where the project described herein will take place and understand that this may delay the Department's evaluation of the project described herein.



Operator or Operator's Representative

6/3/02  
Date

# DEPARTMENT OF FISH AND GAME

## LAKE AND STREAMBED ALTERATION PROGRAM

### Project Questionnaire

Please complete the following questionnaire and submit it with your notification package to expedite the Department's review of your proposed project or activity.

**Please attach or enclose any additional information or documents that support or relate to your response.**

	Yes	Maybe/ Uncertain	No	Please explain you responded "yes" or "maybe/uncertain"
1. Will the project or activity involve work on the bank of a river, stream, or lake?			X	HDD will be set at least 150 feet from riparian vegetative
2. If you answered "yes" to #1, will the project or activity involve any of the following:				
a. Removal of any vegetation?			X	
b. Excavation of the bank?			X	
c. Placement of piers?			X	
d. Placement of bank protection or stabilization structures or materials (e.g., gabions, rip-rap, concrete slurry/sacks)?			X	
3. Will the project or activity take place in, adjacent to, or near a river that has been designated as "wild and scenic" under state or federal law?			X	
4. Will the project or activity involve work in the bed or channel of a river, stream, or lake?			X	
5. Will the project or activity involve the placement of any permanent or temporary structure in a river, stream, or lake?			X	
6. Will the project involve the use of material from a streambed?			X	
7. Will the project or activity result in the disposal or deposition of debris, waste, or other material in a river, stream, or lake?			X	
a. If you answered "yes" to #7, describe the material that will be disposed of or deposited in the river stream, or lake?				



8.	Will any type of equipment be used in a river, stream, or lake?				X	
a.	If you answered "yes" to #8, describe the type of equipment that will be used:					
9.	Does the project or activity area flood or periodically become inundated with water?	X				
10.	Will water need to be diverted from a river, stream, or lake for the project or activity?				X	
11.	If you answered "yes" to #10, please answer the following:					
a.	Will this be a temporary diversion?					
b.	Will water quality be affected by the deposition of silt, an increase in water temperature, a change in the pH level, or in some other way?					
c.	Will the water be diverted by means of a dam, reservoir, or other water impoundment structure?					
12.	Will the project or activity be done pursuant to a water right application or permit?				X	
13.	a. Has a wildlife assessment or study been completed for the area where or near where the project or activity will take place? (If "yes", attach or enclose a copy of the assessment or study.)	X				AFC Cosumnes Power Plant
14.	Will the project or activity affect fish, amphibians, insects, or other aquatic resources?			X		
15.	Will the project or activity affect terrestrial wildlife?	X				Potential to temporarily disturbing foraging wildlife
16.	Are any endangered rare plant species thought or known to occur in the area where the proposed project or activity will take place?				X	
17.	Are any endangered or threatened fish, bird, or animal species thought or known to occur in the area where the proposed project or activity will take place?	X				Swainsons Hawk, giant garter snake
18.	Have you contacted any other local, State, or federal agency regarding the project or activity?	X				ACOE, USFWS
a.	If you answered "yes" to #18, please list the names of the agencies you have contacted:	Mike Finan, Army Corps of Engineers, Ken Fuller, US Fish and Wildlife Services, Madelyne Martinez, NMFS, Melinda Dorin, CEC				



19. Have you applied for or obtained any permit, agreement, or other authorization for your project or activity from any government agency?	X			
a. If you answered "yes" to #19, please list the names or describe the permit, agreement, or authorization you have applied for or obtained:				
20. Have any environmental documents pertaining to your project or activity been prepared?	X			
a. If you answered "yes" to #20, please list the environmental documents that have been prepared:				AFC: California Energy Commission September 2001. Wetland Delineation, ACOE, May 2002. Biological Resources Assessment, ACOE, May 2002.

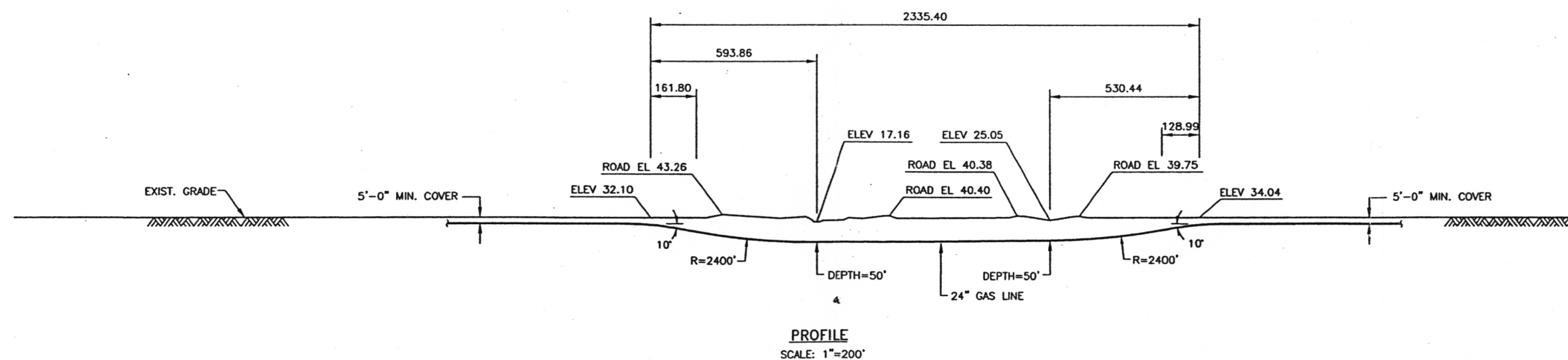
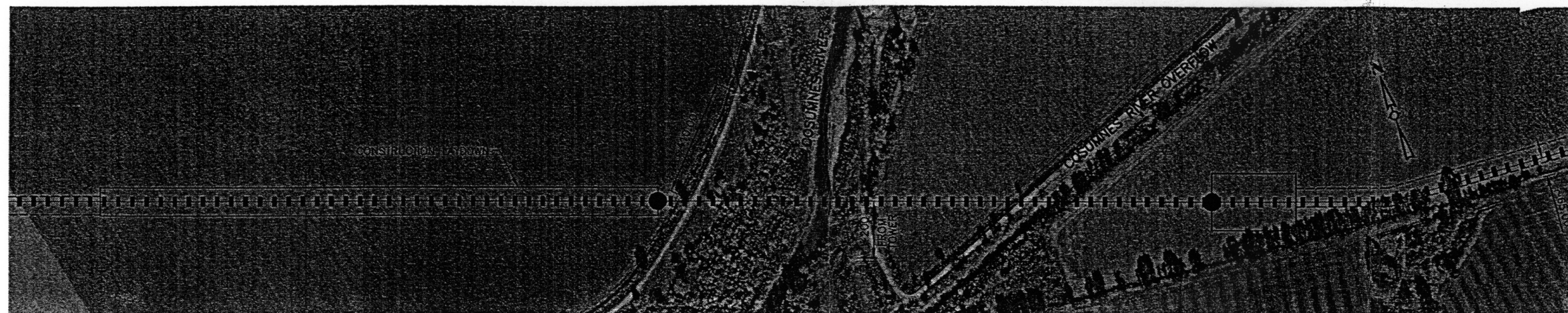
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*Karin M. Hudson*





6/3/02

Operator or Operator's Representative

Date



LEGEND:

-  24" GAS LINE  
 PERMANENT EASEMENT  
 CONSTRUCTION CORRIDOR  
 HORIZONTAL DIRECTIONAL DRILL

[illegible]

## For Department Use Only

Notification Number:		Date Received:		Date Completed:	
Fees Enclosed?	____ Yes \$ _____ No				
Action Taken/Notes:					

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF FISH AND GAME

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<b>Contact Person:</b>	EJ Koford / CH2M HILL	2485 Natomas Park Dr. Suite 600 Sacramento, CA 95833	<b>Business:</b> 916-920-0212 x305 <b>Fax:</b> 916-614-3590
<b>Property Owner:</b>	California Department of Fish and Game (Attn: Terry Roscoe)	1701 Nimbus Road, Suite A, Sacramento, CA 95814	<b>Business:</b> (916) 358-2883 <b>Fax:</b> 358-2912

## Project Location

<b>Location Description:</b>	Badger Creek, 0.28mi. West of Highway 99	
<b>County</b>	<b>Assessor's Parcel Number</b>	
Sacramento	13402700180000	

<b>USGS Map</b>	<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>Latitude/Longitude</b>
Galt	6N	6E	unnumbered	38.33N / 121.34W
<b>Name of River, Stream, or Lake:</b>		Badger Creek		
<b>Tributary To:</b>	Cosumnes River			



**NOTIFICATION OF LAKE OR STREAMBED ALTERATION**  
(Continued)

Name of Applicant: SMUD

Project Description							
<b>Project Name:</b>		Cosumnes Power Plant Gas Line					
<b>Proposed Start Date:</b>	8/03	<b>Proposed Completion Date:</b>	10/03	<b>Project Cost:</b>	>\$150,000	<b>Number of Stream Enroachments: (Timber Harvest Plans Only)</b>	1
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Copies of applicable Local, state, or federal permits, agreements, or other authorizations.	<input type="checkbox"/> Local, Describe:	
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Operator or Operator's Representative

6/3/02  
Date

# DEPARTMENT OF FISH AND GAME

## LAKE AND STREAMBED ALTERATION PROGRAM

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2. If you answered "yes" to #1, will the project or activity involve any of the following:				
a. Removal of any vegetation?			X	
b. Excavation of the bank?			X	
c. Placement of piers?			X	
d. Placement of bank protection or stabilization structures or materials (e.g., gabions, rip-rap, concrete slurry/sacks)?			X	
3. Will the project or activity take place in, adjacent to, or near a river that has been designated as "wild and scenic" under state or federal law?			X	
4. Will the project or activity involve work in the bed or channel of a river, stream, or lake?			X	
5. Will the project or activity involve the placement of any permanent or temporary structure in a river, stream, or lake?			X	
6. Will the project involve the use of material from a streambed?			X	
7. Will the project or activity result in the disposal or deposition of debris, waste, or other material in a river, stream, or lake?			X	
a. If you answered "yes" to #7, describe the material that will be disposed of or deposited in the river stream, or lake?				



8.	Will any type of equipment be used in a river, stream, or lake?				X
a.	If you answered "yes" to #8, describe the type of equipment that will be used:				
9.	Does the project or activity area flood or periodically become inundated with water?	X			
10.	Will water need to be diverted from a river, stream, or lake for the project or activity?			X	
11.	If you answered "yes" to #10, please answer the following:				
a.	Will this be a temporary diversion?				
b.	Will water quality be affected by the deposition of silt, an increase in water temperature, a change in the pH level, or in some other way?				
c.	Will the water be diverted by means of a dam, reservoir, or other water impoundment structure?				
12.	Will the project or activity be done pursuant to a water right application or permit?				X
13.	a. Has a wildlife assessment or study been completed for the area where or near where the project or activity will take place? (If "yes", attach or enclose a copy of the assessment or study.)	X			AFC Cosumnes Power Plant
14.	Will the project or activity affect fish, amphibians, insects, or other aquatic resources?			X	
15.	Will the project or activity affect terrestrial wildlife?	X			Potential to temporarily disturbing foraging wildlife
16.	Are any endangered rare plant species though or known to occur in the area where the proposed project or activity will take place?		X		Sanford's arrowhead and legenera are known from region.
17.	Are any endangered or threatened fish, bird, or animal species thought or known to occur in the area where the proposed project or activity will take place?	X			Swainsons Hawk, giant garter snake
18.	Have you contacted any other local, State, or federal agency regarding the project or activity?	X			ACOE, USFWS
a.	If you answered "yes" to #18, please list the names of the agencies you have contacted:	Mike Finan, Army Corps of Engineers, Ken Fuller, US Fish and Wildlife Services, Madelyne Martinez, NMFS, Melinda Dorin, CEC			



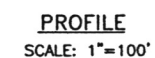
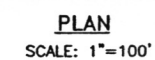
19. Have you applied for or obtained any permit, agreement, or other authorization for your project or activity from any government agency?	X			
a. If you answered "yes" to #19, please list the names or describe the permit, agreement, or authorization you have applied for or obtained:	See attached supplemental information			
20. Have any environmental documents pertaining to your project or activity been prepared?	X			
a. If you answered "yes" to #20, please list the environmental documents that have been prepared:	AFC: California Energy Commission September 2001. Wetland Delineation, ACOE, May 2002. Biological Resources Assessment, ACOE, May 2002.			

I hereby certify that all information contained in this notification is true and correct and that I am authorized to sign this document. I understand that in the event this information is found to be untrue or incorrect, I may be subject to civil or criminal prosecution and the Department may consider this notification to be incomplete and/or cancel any Lake or Streambed Alteration Agreement Issued pursuant to this notification.




Operator or Operator's Representative

Date



——— 24" GAS LINE  
 I PERMANENT EASEMENT  
 - - - - CONSTRUCTION CORRIDOR  
 [Symbol: Horizontal line with a dot at the end] HORIZONTAL DIRECTIONAL DRILL

[illegible]

For Department Use Only			
Notification Number:		Date Received:	Date Completed:
Fees Enclosed?	Yes \$ _____ No _____		
Action Taken/Notes:			

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF FISH AND GAME

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Notification Type	
<input checked="" type="checkbox"/> 1601 (Public)	Streambed Alteration Agreement
<input type="checkbox"/> 1603 (Private)	

Applicant Information			
	Name	Address	Telephone/FAX
<b>Applicant:</b>	Sacramento Municipal Utility District (SMUD) Attn: Colin Taylor	6201 S Street Sacramento, CA 95817-1899	<b>Business:</b> (916) 732-6724 <b>Fax:</b> (916) 732-5884
<b>Operator:</b>	Joseph Pennington SMUD	6201 S Street Sacramento, CA 95817-1899	<b>Business:</b> (916) 732-6915 <b>Fax:</b> (916) 732-5884
<b>Contractor:</b>			<b>Business:</b> <b>Fax:</b>
<b>Contact Person:</b>	EJ Koford / CH2M HILL	2485 Natomas Park Dr. Suite 600 Sacramento, CA 95833	<b>Business:</b> 916-920-0212 x305 <b>Fax:</b> 916-614-3590
<b>Property Owner:</b>	John Belcher	3069 Alamo Drive, PMB 143, Vacaville CA 95687-6344	<b>Business:</b> (707) 425-4193 <b>Fax:</b> none
	Terry Roscoe, State of California	1701 Nimbus Road, Suite A, Sacramento, CA 95814	<b>Business:</b> (916) 358-2883 <b>Fax:</b> 358-2912

Project Location	
<b>Location Description:</b>	Cosumnes River, 0.95 mi. west of Highway 99
<b>County</b>	<b>Assessor's Parcel Number</b>
Sacramento	13402600120000 (Belcher) 13402700180000 (State of Ca)

USGS Map	Township	Range	Section	Latitude/Longitude
Galt	6N	6E	30	38.34N / 121.35W
<b>Name of River, Stream, or Lake:</b>		Cosumnes River		
<b>Tributary To:</b>	Mokelumne River			



**NOTIFICATION OF LAKE OR STREAMBED ALTERATION**  
(Continued)

Name of Applicant: SMUD

**Project Description**

<b>Project Name:</b> Cosumnes Power Plant Gas Line							
<b>Proposed Start Date:</b>	8/03	<b>Proposed Completion Date:</b>	10/03	<b>Project Cost:</b>	<\$150000	<b>Number of Stream Enroachments: (Timber Harvest Plans Only)</b>	1

Describe project below: (Attach separate pages if necessary)

SMUD proposes to install 26 miles of natural gas pipeline to supply the Cosumnes power plant. Approximately 1900 ft of the pipe would be installed via horizontal directional drilling (HDD) under the Cosumnes River to avoid adverse effects to surface features and water quality.

The drilling and exit pads would be located outside the streambed margins, and a minimum of 150 feet from riparian vegetation.

A detailed description of other project features is provided in the Application for Certification (AFC) filed in September 2001

**Attachments/Enclosures**

Attach or enclose the required documents listed below and check the corresponding boxes.

<input type="checkbox"/> Project description	<input checked="" type="checkbox"/> Map showing project location, including distances and/or directions from nearest city or town	<input checked="" type="checkbox"/> Construction plans and drawings pertaining to the project.
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Attach or enclose the required documents listed below and check the corresponding boxes.

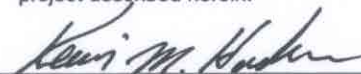
<b>Completed CEQA documents:</b>	<input type="checkbox"/> Negative Declaration	<input type="checkbox"/> Environmental Impact Report	<input type="checkbox"/> Notice of Exemption
	<input type="checkbox"/> Mitigated Negative Declaration	<input checked="" type="checkbox"/> AFC	<input type="checkbox"/> Notice of Determination

<b>Copies of applicable Local, state, or federal permits, agreements, or other authorizations.</b>	<input type="checkbox"/> Local, Describe:
	<input checked="" type="checkbox"/> State, Describe: AFC for Power Plant and related facilities
	<input checked="" type="checkbox"/> Federal, Describe: 4PU permit for other portions of pipeline

I hereby certify that all information contained in this notification is true and correct and that I am authorized to sign this document. I understand that in the event this information is found to be untrue or incorrect, I may be subject to civil or criminal prosecution and the Department may consider this notification to be incomplete and /or cancel any Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand that this notification is valid only for the project described herein and I may be subject to civil or criminal prosecution for undertaking a project that differs from the one described herein, unless I have notified the Department of the project in accordance with section 1601 or 1603 of the Fish and Game code

I understand that a Department representative may need to inspect the property where the project described herein will take place before issuing a Lake or Streambed Alteration Agreement pursuant to this notification. In the event the Department determines that a site inspection is necessary. I hereby authorize the Department to enter the property where the project described herein will take place to inspect the property at any reasonable time and certify that I am authorized to grant the Department permission to access the property.

☐ I request the Department to first contact me at (insert telephone number) \_\_\_\_\_ to schedule a date and time to enter the property where the project described herein will take place and understand that this may delay the Department's evaluation of the project described herein.

  
Operator or Operator's Representative

6/3/02  
Date

# DEPARTMENT OF FISH AND GAME

## LAKE AND STREAMBED ALTERATION PROGRAM

### Project Questionnaire

Please complete the following questionnaire and submit it with your notification package to expedite the Department's review of your proposed project or activity.

**Please attach or enclose any additional information or documents that support or relate to your response.**

	Yes	Maybe/ Uncertain	No	Please explain you responded "yes" or "maybe/uncertain"
1. Will the project or activity involve work on the bank of a river, stream, or lake?			X	HDD will be set at least 150 feet from riparian vegetative
2. If you answered "yes" to #1, will the project or activity involve any of the following:				
a. Removal of any vegetation?			X	
b. Excavation of the bank?			X	
c. Placement of piers?			X	
d. Placement of bank protection or stabilization structures or materials (e.g., gabions, rip-rap, concrete slurry/sacks)?			X	
3. Will the project or activity take place in, adjacent to, or near a river that has been designated as "wild and scenic" under state or federal law?			X	
4. Will the project or activity involve work in the bed or channel of a river, stream, or lake?			X	
5. Will the project or activity involve the placement of any permanent or temporary structure in a river, stream, or lake?			X	
6. Will the project involve the use of material from a streambed?			X	
7. Will the project or activity result in the disposal or deposition of debris, waste, or other material in a river, stream, or lake?			X	
a. If you answered "yes" to #7, describe the material that will be disposed of or deposited in the river stream, or lake?				



8. Will any type of equipment be used in a river, stream, or lake?				X	
a. If you answered "yes" to #8, describe the type of equipment that will be used:					
9. Does the project or activity area flood or periodically become inundated with water?	X				
10. Will water need to be diverted from a river, stream, or lake for the project or activity?				X	
11. If you answered "yes" to #10, please answer the following:					
a. Will this be a temporary diversion?					
b. Will water quality be affected by the deposition of silt, an increase in water temperature, a change in the pH level, or in some other way?					
c. Will the water be diverted by means of a dam, reservoir, or other water impoundment structure?					
12. Will the project or activity be done pursuant to a water right application or permit?				X	
13. a. Has a wildlife assessment or study been completed for the area where or near where the project or activity will take place? (If "yes", attach or enclose a copy of the assessment or study.)	X				AFC Cosumnes Power Plant
14. Will the project or activity affect fish, amphibians, insects, or other aquatic resources?				X	
15. Will the project or activity affect terrestrial wildlife?	X				Potential to temporarily disturbing foraging wildlife
16. Are any endangered rare plant species thought or known to occur in the area where the proposed project or activity will take place?	X				Sanford's Arrowhead, Legenere may occur in region
17. Are any endangered or threatened fish, bird, or animal species thought or known to occur in the area where the proposed project or activity will take place?	X				Swainsons Hawk, giant garter snake in Cosumnes River
18. Have you contacted any other local, State, or federal agency regarding the project or activity?	X				ACOE, USFWS
a. If you answered "yes" to #18, please list the names of the agencies you have contacted:	Mike Finan, Army Corps of Engineers, Ken Fuller, US Fish and Wildlife Services, Madelyne Martinez, NMFS, Melinda Dorin, CEC				



19. Have you applied for or obtained any permit, agreement, or other authorization for your project or activity from any government agency?	X			
a. If you answered "yes" to #19, please list the names or describe the permit, agreement, or authorization you have applied for or obtained:	See attached supplemental information			
20. Have any environmental documents pertaining to your project or activity been prepared?	X			
a. If you answered "yes" to #20, please list the environmental documents that have been prepared:	AFC: California Energy Commission September 2001. Wetland Delineation, ACOE, May 2002. Biological Resources Assessment, ACOE, May 2002.			

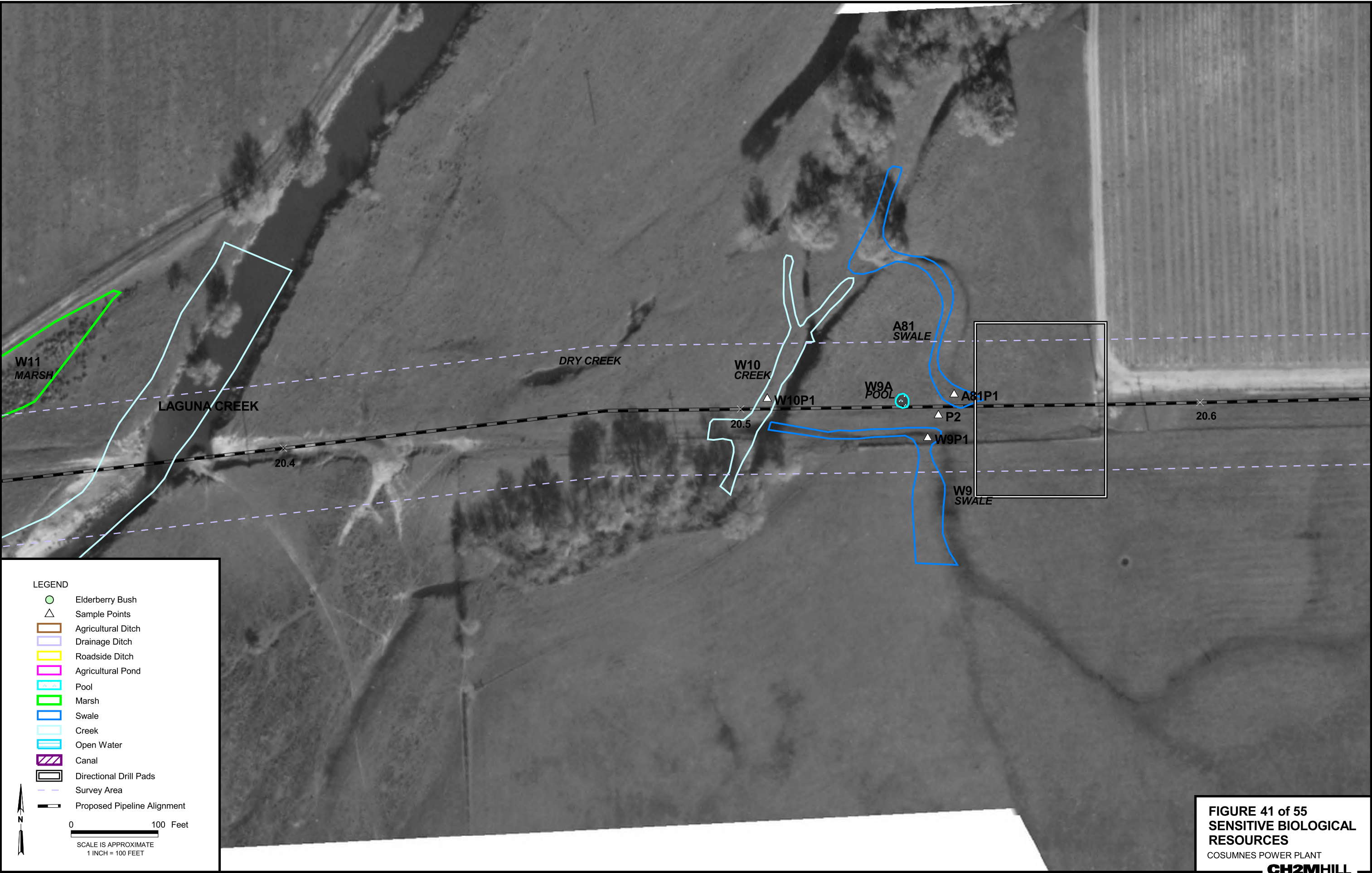
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Operator or Operator's Representative



Date









ASCE Manuals and Reports on Engineering Practice No. 89

# Pipeline Crossings

Prepared by the Task Committee on  
Pipeline Crossings of the Technical Committee  
on Pipeline Crossings of the Pipeline Division  
of the American Society of Civil Engineers



Published by the  
American Society of Civil Engineers  
345 East 47th Street  
New York, New York, 10017-2398



Figure 1. Technique

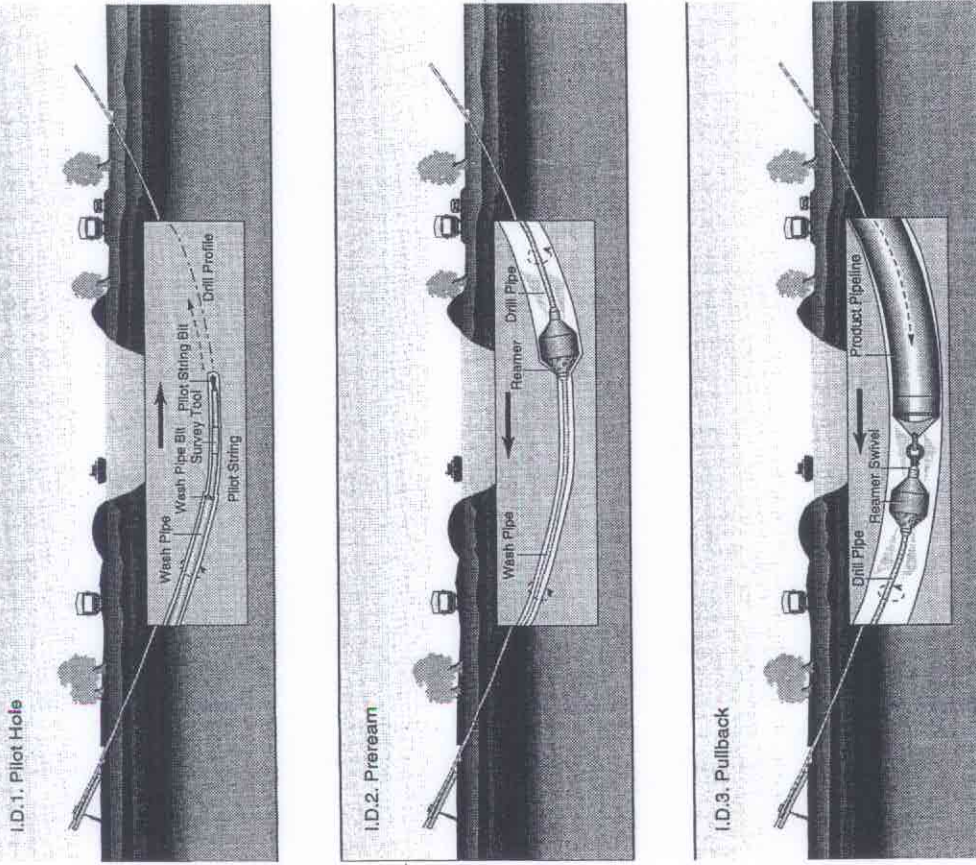


Figure 4.6—Directional Drilling Technique Overview

equipment are set up on the rig side. This side is where drilling, drill pipe installation, steering, and drilling mud recirculation are controlled.

The pipe side is where the welding and fabrication of the carrier or product pipe, cable, etc., that is to be installed under the obstacle is located. Equipment setup on the pipe side includes welding rigs, pipe trailers, bulldozers, and backhoes.

Installing an HDD crossing is a challenge that can be met by careful planning as early as possible in the project. This section is intended to provide the project engineer with guidelines for successfully installing an

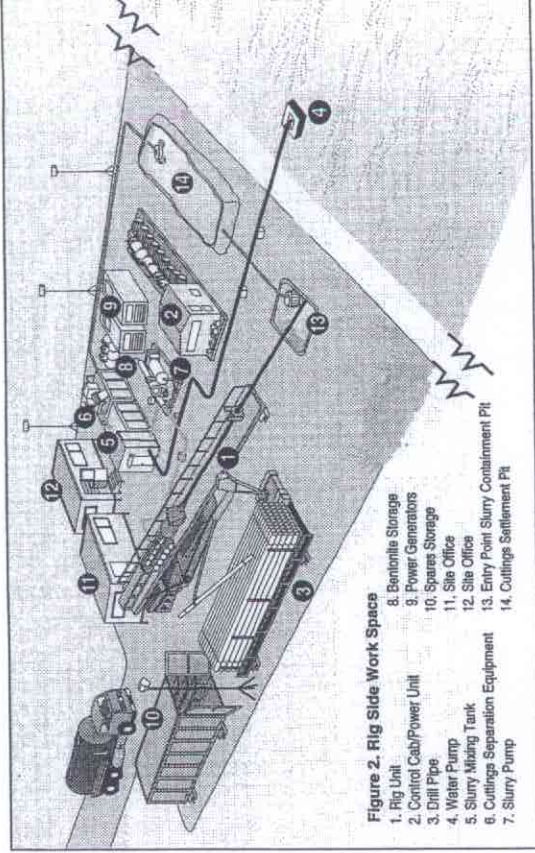


Figure 2. Rig Side Work Space  
1. Rig Unit  
2. Control Cab/Power Unit  
3. Drill Pipe  
4. Water Pump  
5. Slurry Mixing Tank  
6. Cuttings Separation Equipment  
7. Slurry Pump  
8. Bentonite Storage  
9. Power Generators  
10. Spare Storage  
11. Site Office  
12. Site Office  
13. Entry Point Slurry Containment Pit  
14. Cuttings Settlement Pit

Figure 4.7—Typical Rig-Side Layout

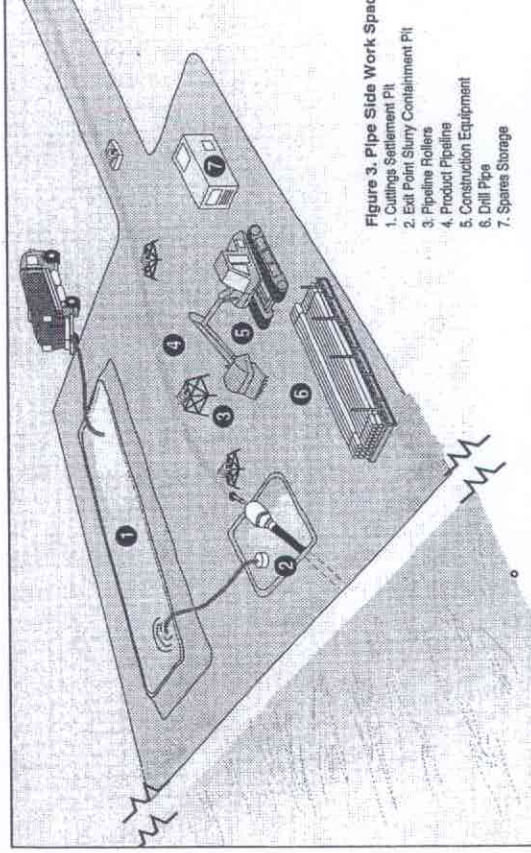


Figure 3. Pipe Side Work Space  
1. Cuttings Settlement Pit  
2. Entry Point Slurry Containment Pit  
3. Pipeline Rollers  
4. Product Pipeline  
5. Construction Equipment  
6. Drill Pipe  
7. Spare Storage

Figure 4.8—Typical Pipe-Side Layout. Figures 4-6, 4-7 and 4-8 all reprinted with permission from Hart's Pipeline Digest.



# Contingency Plan for Horizontal Directional Drilling

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The natural gas pipeline extension to the Cosumnes Power Plant (CPP) is proposed to cross the Cosumnes River, Badger Creek, and Laguna Creek by Horizontal Directional Drilling (HDD). HDD is less intrusive than traditional open-cut trenching where habitats sustain direct soil disturbance.

Frac-out, or inadvertent return of drilling lubricant, is a potential concern when the HDD is used under sensitive habitats and waterways. The HDD procedure uses bentonite slurry, a fine clay material as a drilling lubricant. The bentonite is non-toxic and commonly used in farming practices, but benthic invertebrates, aquatic plants, and fish and their eggs can be smothered by the fine particles if bentonite were discharged to waterways.

The purpose of a Contingency Plan or "Frac-out" plan is to:

- Minimize the potential for a frac-out associated with horizontal directional drilling activities;
- Provide for the timely detection of frac-outs;
- Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources);
- Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling mud occur; and,
- Ensure that all appropriate notifications are made to the CEC and environmental monitors immediately, and to appropriate regulatory agencies within 24 hours and that documentation is completed.

The "Frac-out" plan is prepared by the drilling contractor, to ensure that preventive and responsive measures can be implemented by the contractor. To minimize the potential for a Frac-out, the Contingency Plan includes:

- Design protocols to be implemented for the protection of sensitive cultural and biological resources.
- Design protocols to require a geotechnical engineer or qualified geologist to make recommendations regarding the suitability of the formations to be bored to minimize the potential for frac-out conditions.

Prior to construction, sensitive biological resources will be protected by implementing the following measures:



- Sensitive biological resources will be flagged for avoidance *or* construction limits will be clearly marked.
- Barriers (straw bales or sedimentation fences) will be erected between the bore site and nearby sensitive resources prior to drilling, as appropriate, to prevent released material from reaching the resource;
- On-site briefings will be conducted for the workers to identify and locate sensitive resources at the site;
- Ensure that all field personnel understand their responsibility for timely reporting of frac-outs
- Maintaining necessary response equipment on-site or at a readily accessible location and in good working order;
- Disallowing fill into waters of the United States unless proper permits have been obtained, and
- Monitoring for the duration of drilling activities by a qualified biologist.
- Implement any of the mitigation measures specified by CDFG in its Streambed Alteration Agreement, pursuant to Fish and game Code Section 1603.

To further reduce the potential impacts of a "frac-out", construction of the pipeline is expected to occur when there is least (or no) flow in the Cosumnes, Badger and Laguna Creeks. Construction is expected to begin in summer of 2003 and end in the fall of 2003.

The drilling entry and exit areas will be clearly marked, surrounded by construction fencing and silt fencing to minimize the potential for all-site migration of drilling mud. Access and egress locations will be designated and clearly marked.

The primary areas of concern for inadvertent returns occur at the entrance and exit points where the drilling equipment are at depths of less than 12 to 20 feet deep. The likelihood of inadvertent return decreases as the depth of the pipe increases. To reduce the potential of a frac out affecting sensitive resources, the entrance and exit points for drilling will be located at least 150 feet from riparian vegetation along the Cosumnes, Badger and Laguna Creeks.

To minimize the potential extent of impacts from a frac-out, all HDD will be attended by a full time biological monitor, to look for observable "frac-out" conditions or lowered pressure readings on the drilling equipment. Early detection is key to minimizing the area of potential impact.

## Contingency Response

Once a frac-out is identified,

- 1) All work stops, including the recycling of drilling mud/lubricant. The pressure of water above the pipe keeps excess mud from escaping through

the fracture.

- 2) Determine the location and extent of the frac-out.
- 3a) If the "frac-out" is terrestrial, isolate the area with hay bales, sand bags, or silt fencing to surround and contain the drilling mud.
- 4) Consult with CDFG and property owner representative (i.e. Nature Conservancy) regarding next appropriate action among the following:
  - a) A mobile vacuum truck will be used to pump the drilling mud from the contained area and recycled to the return pit.
  - b) The drilling mud will be left in place to avoid potential damage from vehicles entering the area.
  - c) Once excess drilling mud is removed, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
  - d) Revegetated areas will be monitored twice per year for two years subsequent to frac-out to confirm revegetation is successful.
- 3b) If the "frac-out" is aquatic (under water), monitor frac-out for 4 hours to determine if the drilling mud congeals. (Bentonite will usually harden, effectively sealing the "frac-out" location).
- 4) Consult with CDFG and property owner representative (i.e. Nature Conservancy) regarding next appropriate action among the following:
  - a) If drilling mud congeals, take no other action that would potentially suspend sediments in the water column.
  - b) If drilling mud does not congeal, erect isolation/containment environment (underwater boom and curtain).
  - c) If the fracture becomes excessively large, a spill response team would be called in to contain and clean up excess drilling mud in the water. Phone numbers of spill response teams in the area will be on site.
  - d) If the spill affects an area that is vegetated, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
  - e) Revegetated areas will be monitored twice per year for two years subsequent to frac-out to confirm revegetation is successful.
- 5) After frac-out is stabilized and any required removal is completed, document post-cleanup conditions with photographs and prepare "frac-out" incident report describing time, place, actions taken to remediate frac-out and measures implemented to prevent recurrence. Incident report will be provided to CEC and CDFG as part of project compliance not more than 30 days after the incident.

**SMUD**

**SACRAMENTO MUNICIPAL UTILITY DISTRICT**  
6201 S Street, P.O. Box 15830, Sacramento CA 95852-1830

VENDOR NO.

100065

DATE

06/04/2002

Bank America Illinois  
Northbrook, Illinois

00000119469

70-2328/0719

VOID 6 MONTHS AFTER ISSUE

PAY EXACTLY

\*\*\*\*\*772.75\*

SEVEN HUNDRED SEVENTY-TWO USD and 75/100 \*\*\*

SMUD Commercial Disbursement Account

THE STATE OF CALIFORNIA  
F RESOURCES AGENCY  
DEPT OF FISH AND GAME REGION II  
1701 NIMBUS ROAD STE A  
RANCHO CORDOVA CA 95670

*Norbert Baker*

⑈0000119469⑈ ⑆071923284⑆ 87650⑈02383⑈